Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-7, 10, 11, 14-16, 21, and 22 are pending in the application, with claims 1, 4, and 7 being the independent claims. Claims 12 and 13 are sought to be cancelled without prejudice to or disclaimer of the subject matter therein. Claims 2, 3, 5-7, 10, 11, and 14-16 are sought to be amended. Claims 21 and 22 are sought to added. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Provisional Non-Statutory Double Patenting Rejection

The Examiner has provisionally rejected claims 1, 2, 4, 5, 7, and 10 under the judicially created doctrine of obviousness-type double patenting for allegedly being unpatentable over claims 8 and 26 of co-pending Application No. 10/880,769.

Pursuant to MPEP Section 804(I)(B), since co-pending Application No. 10/880,769 has not been allowed, the Examiner should maintain the double patenting rejection in this instant application as a 'provisional' double patenting rejection, which can be converted into a double patenting rejection when the co-pending Application No. 10/880,769 issues as a patent. Applicants will appropriately address the provisional double patenting rejection in the event it is converted to an actual double patenting rejection pursuant to MPEP Section 804(I)(B) after co-pending Application No. 10/880,769 issues as a patent.

Request for Clarification

In the Office Action dated March 17, 2009, the Examiner rejected claims 1, 4, and 7 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,658,024 to Okamura ("Okamura") in view of U.S. Patent No. 5,774,455 to Kawase et al. ("Kawase"). However, the Detailed Action does not include a discussion of Okamura and Kawase as it applies to the rejection of claims 1, 4, and 7. Rather, the Detailed Action appears to allege that U.S. Patent No. 6,747,992 to Matsumoto ("Matsumoto") anticipates claims 1, 4, and 7 under 35 U.S.C. § 102(b).

Applicants will assume that the stated rejection under 35 U.S.C. § 103(a) was a clerical error by the Examiner and that he instead intended to reject the same claims under 35 U.S.C. § 102(b) as indicated above. If this assumption is incorrect, Applicants request that the Examiner issue a corrected Non-Final Office Action resetting the date for response.

Rejections Under 35 U.S.C. § 102

Claims 1, 4, and 7

Claims 1, 4, and 7 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Matsumoto. For the reasons set forth below, Applicants respectfully traverse.

Matsumoto is directed to the assignment of transmission data to a first bit map 'A' and a second bit map 'B'. (Matsumoto, Abstract.) The two bit maps correspond to two portions of a time period; namely, bit map 'A' corresponds to a far-end crosstalk (FEXT) noise portion and bit map 'B' corresponds to a near-end crosstalk (NEXT) noise portion. (Matsumoto, 4:52-60; FIG.19.)

At columns 10-11, Matsumoto describes a specific assignment of transmission data to bit maps 'A' and 'B', where the two bit maps correspond to a time period having a duration of 2.5 ms and 10 symbols. (Matsumoto, 10:31-38.) Bit map 'A' specifically encompasses 3 of the 10 symbols and bit map 'B' encompasses the remaining 7. (*Id.*)

The transmission data—to be assigned to bit maps 'A' and 'B'—is received at a uniform rate and is "assigned in such a manner that the data of one period (2.5 ms)....[is] inserted in [the] unit of ten symbols...including three symbols of bit map A...plus seven symbols of bit map B." (*Id.*) In order to satisfy the above noted assignment criteria, Matsumoto provides that the following condition must be met:

$$\text{(number of bits of bit map A)}\times 3 + \text{(number of bits of bit map B)}\times 7 \geq \text{(transmission rate in kbps)}\times\text{(one period, 2.5ms)}$$

(Matsumoto, 10:52-53.) Column 11 of Matsumoto details the assignment of data to bit maps 'A' and 'B' to meet the above condition based on an exemplary transmission rate of 64 kbps. (Matsumoto, 10:59-11:23.)

Although Matsumoto may discuss constraining the number of bits assigned to bit maps 'A' and 'B' "in such a manner that the data of one period (2.5 ms)....[is] inserted in [the] unit of ten symbols" as noted above, Matsumoto does ***not*** teach or suggest constraining the number of bits assigned to bit maps 'A' and 'B', or the rate at which the data assigned to bit maps 'A' and 'B' is transmitted, "such that a transmission latency does not exceed a ***predetermined maximum allowed transmission latency***" as recited in claim 1.

At most, Matsumoto notes that "[i]n order to reduce the delay time, the difference between the number of bits assigned to bit maps A and the number of bits assigned to bit map B is minimized as much as possible." (Matsumoto, 10:54-58.) However, simply reducing the delay by minimizing the difference between the number of bits assigned to

bit maps 'A' and 'B' may reduce the delay beyond what is necessary. The feature of claim 1, noted above, advantageously constrains a first bit rate and a second bit rate "such that a transmission latency does not exceed a ***predetermined maximum allowed transmission latency***." By constraining the first and second bit rate for a ***predetermined maximum allowed transmission latency***, rather than simply reducing the latency as proposed by Matsumoto, an "optimum rate versus latency" can be computed. (Specification, page 15, line 23-page 16, line 1; page 17, line 28.) Matsumoto does not teach or suggest such an advantageous and non-obvious feature.

Applicants respectfully refer the Examiner to page 15 of the specification for an exemplary discussion of determining a bit rate based on a ***predetermined maximum allowed transmission latency***. Specifically, a bit rate ("R_{FEXT}") is determined for a maximum allowed latency of 100 μs. Matsumoto does not teach or suggest in column 10 (or in any other portion for that matter) of such a calculation, where a bit rate is determined based on a ***predetermined maximum allowed transmission latency***.

Because Matsumoto does not teach or suggest each and every feature of independent claim 1, it cannot anticipate that claim. Accordingly, Applicants respectfully request that the rejection of claim 1 under 35 U.S.C. § 102(b) be reconsidered and withdrawn.

Independent claim 4 recites, among other features, "the first bit rate and the second bit rate being constrained such that a transmission latency does not exceed a predetermined maximum allowed transmission latency." As noted above, in regard to claim 1, Matsumoto does not teach or suggest at least this feature. Therefore, Matsumoto cannot anticipate this claim. Accordingly, Applicants respectfully request that the rejection of claim 4 under 35 U.S.C. § 102(b) be reconsidered and withdrawn.

Independent claim 7 recites, among other features, "a first bit rate controller for determining the first bit rate based on the second bit rate and the pre-determined maximum allowed transmission latency." As noted above, in regard to claim 1, Matsumoto does not teach or suggest at least this feature. Therefore, Matsumoto cannot anticipate this claim. Accordingly, Applicants respectfully request that the rejection of claim 7 under 35 U.S.C. § 102(b) be reconsidered and withdrawn.

Rejections Under 35 U.S.C. § 103

Claims 2, 3, 5, 6, 10, and 11

Claims 2, 3, 5, 6, 10, and 11 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Matsumoto in view of U.S. Patent No. 6,801,570 to Yong ("Yong"). For the reasons set forth below, Applicants respectfully traverse.

Without acquiescing to the propriety of the asserted combination, Yong does not cure the deficiencies of Matsumoto with respect to independent claims 1, 4, and 7 as noted above. Consequently, independent claims 1, 4, and 7 are patentable over the combination of Matsumoto and Yong. Claims 2, 3, 5, 6, 10, and 11 are similarly patentable over the combination of Matsumoto and Yong for at least the same reasons as independent claims 1, 4, and 7, from which the respectively depend, and further in view of their own features. Accordingly, Applicants respectfully request that the rejection of claims 2, 3, 5, 6, 10, and 11 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

Claims 12 and 13

Claims 12 and 13 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Matsumoto in view of Yong, and further in view of U.S. Patent No. 6,804,267 to Long et al. ("Long") and U.S. Patent No. 6,658,024 to Okamura

("Okamura"). Claims 12 and 13 have been cancelled by the above amendment, thereby rendering the rejection of those claims moot.

Allowable Subject Matter/Objections

Claims 14-16 have been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims. Based on the above Remarks, Applicants submits that claims 14-16 are patentable over the art of record without being rewritten in independent form including all limitations of the base claims and any intervening claims. Therefore, it is respectfully requested that the objection to claims 14-16 be reconsidered and withdrawn.

Other Matters

Applicants note that the previous rejection of pending claims 1-7, 10, 11, and 14-16 has been withdrawn. (Office Action, page 2.) However, the Examiner has not provided any specific reason as to why the previous rejection of claims 1-7, 10, 11, and 14-16 has been withdrawn. Absent an indication to the contrary, Applicants assume that the arguments presented in the reply, dated December 3, 2008, were persuasive and, therefore, the basis of the Examiner's withdrawal of the previous rejection of claims 1-7, 10, 11, and 14-16.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Glenn J. Perry
Attorney for Applicants
Registration No. 28,458

Date: 26 May 2009

1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600

958730_1.DOC